

Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Trial Information

Trial Sponsor(s): Adjuvants Unlimited, BASF, Corteva, Syngenta, Valent

Objective: Evaluate multiple two-pass herbicide programs with layered residuals for season-long waterhemp control in Enlist soybean

Crop: Enlist Soybean

Variety: H2123E

Weed species (pressure): glyphosate-R waterhemp (high-very high)
velvetleaf (moderate)
fall panicum (moderate)

Herbicide Application(s): PRE – 5/24
POST – 6/29 (V4 soybean)
LPOST – 7/14 (V7/R1 soybean)

For the full report see trial #22-BRO-SB12 in the [2022 Wisconsin Weed Science Research Report](#)



Cropping Systems Weed Science
UNIVERSITY OF WISCONSIN-MADISON

Evaluation of Layered Residual Herbicide Programs in Enlist Soy

Trt #	Herbicide (rate acre ⁻¹)	Injury (%)	Waterhemp (%)					Velvetleaf (%)			Fall Panicum (%)			Yield ^b bu acre ⁻¹
		7/13	6/14	6/29	7/13	7/26	9/29	6/29	7/26	9/29	6/29	7/26	9/29	
1	Untreated Check	0	0	0	0	0	0	0	0	0	0	0	0	29 d
Two-Pass – PRE (5/24) fb POST (6/29)			POST					POST			POST			
2	Kyber (1 pt) fb Enlist One (32 oz) + Liberty (32 oz) + EverpreX (1 pt) + AMS*	4.5	100	88	99	97	97	99	100	100	96	100	100	69 abc
3	Kyber (1 pt) fb Enlist One (32 oz) + Durango DMA (32 oz) + EverpreX (1 pt) + AMS*	3.5	100	90	96	96	99	96	100	100	99	100	100	67 bc
7	Kyber (1 pt) fb Liberty (32 oz) + Durango DMA (32 oz) + EverpreX (1 pt) + AMS*	5	100	86	100	98	99	99	100	100	91	100	100	66 c
8	Fierce EZ (6 oz) fb Liberty (32 oz)+Perpetuo (6 oz)+Select Max (9 oz)+Induce 0.25% v/v +AMS*	3.3	100	89	98	94	95	94	100	100	92	100	99	71 a
9	Fierce EZ (6 oz) fb Enlist One (32 oz)+Perpetuo (6 oz)+Select Max (9 oz)+Induce 0.25% v/v +AMS*	5	100	82	95	83	93	95	100	100	94	100	96	69 abc
10	Fierce MTZ (1 pt) fb Liberty (32 oz)+Perpetuo (6 oz)+Select Max (9 oz)+Induce 0.25% v/v +AMS*	2.8	100	87	99	96	99	97	100	100	95	100	100	69 abc
11	Fierce MTZ (1 pt) fb Enlist One (32 oz)+Perpetuo (6 oz)+Select Max (9 oz)+Induce 0.25% v/v +AMS*	4.3	99	83	92	81	90	97	100	100	93	100	100	67 bc
12	Tendovo (2.1 qt) fb Sequence (3 pt) + Enlist One (32 oz) + AMS*	4	97	61	89	85	96	98	100	100	99	99	100	69 abc
13	Zidua PRO (6 oz) fb Enlist One (32 oz) + Roundup PM3 (20 oz) + Zidua SC (2 oz) + AMS*	1.8	99	75	92	90	99	100	100	100	94	100	100	70 ab
14	Verdict (5 oz) + Zidua SC (2 oz) fb Enlist One (32 oz) + Roundup PM3 (20 oz) + Zidua SC (2 oz) + AMS*	2	99	73	94	90	99	99	100	100	96	100	100	66 c
Three-Pass – PRE (5/24) fb POST (6/29) fb LPOST (7/14)			LPOST											
4	Kyber (1 pt) fb Enlist One (32 oz) + Liberty (32 oz) + EverpreX (1 pt) + AMS* fb Enlist One (32 oz) + Liberty (32 oz) + AMS*	4	100	90	99	100	100	99	100	100	98	100	100	67 abc
5	Kyber (1 pt) fb Enlist One (32 oz) + Durango DMA (32 oz) + EverpreX (1 pt) + AMS* fb Enlist One (32 oz) + Liberty (32 oz) + AMS*	3.3	100	90	98	100	100	99	100	100	95	100	100	67 bc
6	Kyber (1 pt) fb Enlist One (32 oz) + Liberty (32 oz) + EverpreX (1 pt) + AMS* fb Enlist One (32 oz) + Durango DMA (32 oz) + AMS*	4.8	100	85	99	99	100	96	100	100	93	100	100	68 abc
			LSD ($\alpha=0.10$)	1.0	1	11	3	5	3	ns	ns	ns	ns	3
			p value	<0.001	<.001	.003	<.001	<.001	<.001	.504	1.00	1.00	.709	<0.001
													.568	.261

^aVisual control from 70-100% is illustrated on a color scale with green representing greater weed control values.

^bYield values with the same letter are not significantly different.

*Spray grade AMS applied at 3 lb/a.

Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Plot pictures taken on 6/14
21 days after the PRE application

The numbers in the upper right-hand corner are the average % waterhemp and velvetleaf control of 4 replications

21 days after PRE (6/14)

Untreated Check

0%



21 days after PRE (6/14)

PRE: 1 pt Kyber

100%



21 days after PRE (6/14)

PRE: 6 fl oz Fierce EZ

100%



21 days after PRE (6/14)

PRE: 1 pt Fierce MTZ

100%



21 days after PRE (6/14)

PRE: 2.1 qt Tendovo

97%



3

21 days after PRE (6/14)

PRE: 6 fl oz Zidua PRO

99%



21 days after PRE (6/14)

99%

PRE: 5 fl oz Verdict + 2 fl oz Zidua SC



Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Plot pictures taken on 6/28

35 days after the PRE application
1 day before the POST application

The number in the upper right-hand corner is the average % waterhemp control of 4 replications

35 days after PRE (6/28)

Untreated Check

0%



35 days after PRE (6/28)

PRE: 1 pt Kyber

88%



35 days after PRE (6/28)

PRE: 6 fl oz Fierce EZ

86%



35 days after PRE (6/28)

PRE: 1 pt Fierce MTZ

85%



35 days after PRE (6/28)
PRE: 2.1 qt Tendovo

61%



35 days after PRE (6/28)

PRE: 6 fl oz Zidua PRO

75%



35 days after PRE (6/28)

PRE: 5 fl oz Verdict + 2 fl oz Zidua SC

73%



Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Plot pictures taken on 7/13

50 days after the PRE application
14 days after the POST application

The number in the upper right-hand corner is the average % waterhemp control of 4 replications

50 days after PRE (7/13)

0%

Untreated Check



14 days after POST (7/13)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS

99%



14 days after POST (7/13)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Durango DMA + 1 pt EverpreX + AMS

97%



14 days after POST (7/13)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Liberty + 32 fl oz Durango DMA + 1 pt EverpreX + AMS

100%



14 days after POST (7/13)

PRE: 6 fl oz Fierce EZ fb

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

98%



14 days after POST (7/13)

PRE: 6 fl oz Fierce EZ fb

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

95%



14 days after POST (7/13)

PRE: 1 pt Fierce MTZ *fb*

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

99%



14 days after POST (7/13)

PRE: 1 pt Fierce MTZ *fb*

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

92%



14 days after POST (7/13)

PRE: 2.1 qt Tendovo *fb*

POST: 3 pt Sequence + 32 fl oz Enlist One + AMS

89%



14 days after POST (7/13)

PRE: 6 fl oz Zidua PRO fb

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS

92%



14 days after POST (7/13)

PRE: 5 fl oz Verdict + 2 fl oz Zidua SC *fb*

94%

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS



Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Plot pictures taken on 7/26

63 days after the PRE application

27 days after the POST application

12 days after the LPOST application

The number in the upper right-hand corner is the average % waterhemp control of 4 replications

63 days after PRE (7/26)

Untreated Check

0%



27 days after POST (7/26)

PRE: 1 pt Kyber fb

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS

97%



12 days after LPOST (7/26)

PRE: 1 pt Kyber *fb*

100%

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS *fb*

LPOST: 32 fl oz Enlist One + 32 fl oz Liberty + AMS



12 days after LPOST (7/26)

PRE: 1 pt Kyber *fb*

99%

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS *fb*

LPOST: 32 fl oz Enlist One + 32 fl oz Durango DMA + AMS



27 days after POST (7/26)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Durango DMA + 1 pt EverpreX + AMS

96%



12 days after LPOST (7/26)

PRE: 1 pt Kyber *fb*

100%

POST: 32 fl oz Enlist One + 32 fl oz Durango DMA + 1 pt EverpreX + AMS *fb*

LPOST: 32 fl oz Enlist One + 32 fl oz Liberty + AMS



27 days after POST (7/26)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Liberty + 32 fl oz Durango DMA + 1 pt EverpreX + AMS

98%



27 days after POST (7/26)

PRE: 6 fl oz Fierce EZ fb

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

94%



27 days after POST (7/26)

PRE: 6 fl oz Fierce EZ fb

83%

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



27 days after POST (7/26)

PRE: 1 pt Fierce MTZ *fb*

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

96%



27 days after POST (7/26)

PRE: 1 pt Fierce MTZ *fb*

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

81%



27 days after POST (7/26)

PRE: 2.1 qt Tendovo *fb*

POST: 3 pt Sequence + 32 fl oz Enlist One + AMS

85%



27 days after POST (7/26)

PRE: 6 fl oz Zidua PRO fb

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS

90%



27 days after POST (7/26)

PRE: 5 fl oz Verdict + 2 fl oz Zidua SC *fb*

90%

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS



Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Plot pictures taken on 9/29
End of Season

The number in the upper right-hand corner is the average % waterhemp control of 4 replications

End of Season (9/29)

Untreated Check

0%



End of Season (9/29)

PRE: 1 pt Kyber fb

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS

97%



End of Season (9/29)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS *fb*

LPOST: 32 fl oz Enlist One + 32 fl oz Liberty + AMS

100%



End of Season (9/29)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS *fb*

LPOST: 32 fl oz Enlist One + 32 fl oz Durango DMA + AMS

100%



End of Season (9/29)

PRE: 1 pt Kyber fb

POST: 32 fl oz Enlist One + 32 fl oz Durango DMA + 1 pt EverpreX + AMS

99%



End of Season (9/29)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Durango DMA + 1 pt EverpreX + AMS *fb* 100%

LPOST: 32 fl oz Enlist One + 32 fl oz Liberty + AMS



End of Season (9/29)

PRE: 1 pt Kyber fb

POST: 32 fl oz Liberty + 32 fl oz Durango DMA + 1 pt EverpreX + AMS

99%



End of Season (9/29)

PRE: 6 fl oz Fierce EZ fb

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

95%



End of Season (9/29)

PRE: 6 fl oz Fierce EZ fb

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

93%



End of Season (9/29)

PRE: 1 pt Fierce MTZ *fb*

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

99%



End of Season (9/29)

PRE: 1 pt Fierce MTZ fb

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS

90%



End of Season (9/29)

PRE: 2.1 qt Tendovo *fb*

POST: 3 pt Sequence + 32 fl oz Enlist One + AMS

96%



End of Season (9/29)

PRE: 6 fl oz Zidua PRO fb

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS

99%



End of Season (9/29)

PRE: 5 fl oz Verdict + 2 fl oz Zidua SC *fb*

99%

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS

